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AGO ltr 29 Apr 1980

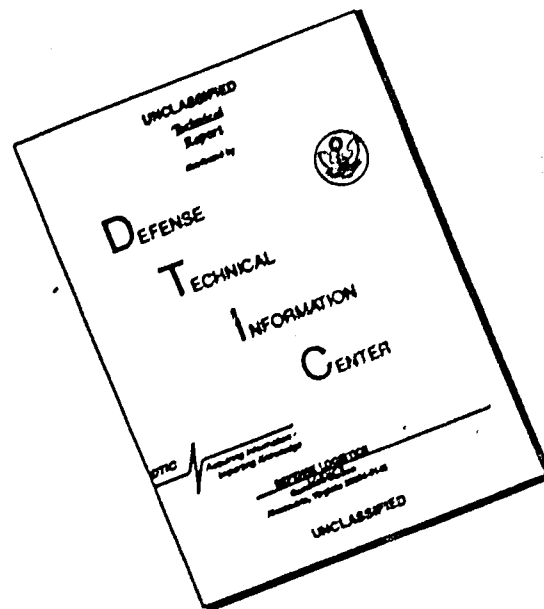
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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 46TH ENGINEER BATTALION (CONSTRUCTION)  
APO 96491

15 May 1967

SUBJECT: Operational Report - Lessons Learned (ACSFOR-65) for Quarterly Period Ending 30 Apr 67.

THRU: Commanding Officer, 159th Engineer Group (Const), APO 96491  
Commanding General, US Army Engineer Command Vietnam (Prov)  
ATTN: AVCC-P&O, APO 96491  
Commanding General, United States Army, Vietnam, ATTN: AVHCC-DH  
APO 96307  
Commander in Chief, United States Army, Pacific, ATTN: GPOF-OT,  
APO 96588

TO: Assistant Chief of Staff for Force Development  
Department of the Army (ACSFOR DA)  
Washington, D. C. 20310

OCT 31 1968

Section 1. Significant Organization or Unit Activities

1. Command: LTC William V. McGuinness, Jr, commanded the battalion during the entire reporting period.

2. Personnel, Administration, Morale and Discipline:

a. The 46th EEC is organized under TO&E 5-115D. Attached is the 536th Engineer Detachment (Port Construction) organized under TO&E 5-129E with change 2 and G.O. 149 U.S. Army Engineer Center. On 20 April 1967 Company C, 577th Engineer Battalion (Construction) was relieved from attachment to the 46th EEC.

b. Other units under operational control of the 46th EEC during this period were:

(1) 617th Panel Bridge Company - modifying the Tan Thuan (Fish Market) Bridge in Saigon.

(2) Elements of the 643d Pipeline Construction Company working on the Saigon pipeline and tank project.

(3) The quarry platoon of the 103d Engineer Company and elements of the quarry platoon of the 62 Engineer Battalion operating two quarries in Vung Tau

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ACSFOR-RD File

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c. Vietnamese continue to be employed in a variety of occupations -- laborers, carpenters, masons, electricians, etc. The total number of Vietnamese employed was approximately 800.

d. Personnel strength: The battalion is authorized a 10% overstrength; as of 31 April the battalion was 13% overstrength based upon the Delta series TOL. The battalion received 300 replacements during the month of April. This is 32% of the authorized battalion strength. Since the replacement hump will be reached in the next quarter, the new personnel will receive adequate experience prior to the hump.

e. Morale and Welfare: Morale continues very high, even though the battalion operations continue on a seven day week two shift day. The battalion has nearly completed a self help (soldier effort which is available over and above the normal 70 hour week) project to get the troops out of the tents before the monsoon rains. This included billets for D Company which is scheduled to return to Long Binh from Vung Tau in May. This effort produced 14 billets with 33,760 sq ft of living area. The battalion also has a barber shop, PX, tailor shop and snack bar in the battalion area. The battalion theater has movies six nights a week. An indication of the morale are the 100 voluntary extensions during the quarter, which was 22% of the battalion personnel scheduled for rotation during the quarter.

3. Intelligence and Counterintelligence: Dissemination of intelligence information was broadened via a weekly briefing by the battalion intelligence NCO to all company and staff representatives. The briefing digests all intelligence summaries for the week pertinent to our areas of operation.

#### 4. Plans, Operations and Training:

a. During the period the battalion was committed to construction in three areas: Long Binh-Bien Hoa-Saigon, Vung Tau-Nai Dat area, and the Dong Tam area. These areas are normally connected only by air and water. Types of construction included base development, airfield construction, highway construction, and port construction. Approximately 35% of the battalion is currently assigned to Vung Tau as a task force comprised of D Company, 46th EBC (reinforced), the 536th Engr Det (PC), and the attached quarry platoon of the 103d Engineer Construction Support Company. With the arrival at Vung Tau of the 34th Engineer Group (Construction) from the US, the 46th EBC will soon be losing the 536th Engineer Detachment; however D Company, 46th EBC will move to Long Binh marking the first time it has been with its parent unit since arriving in Vietnam in September 1965.

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b. Company A, continues to provide maintenance and equipment support to the Battalion. Faced with a shortage of concrete mixers both for engineer and self help units, A Company began daily operations of a concrete batch plant using a Worthington 34-E Paver. The operation is capable of providing about 30 cu yd/hr of ready mix concrete. At the end of this period the batch plant had produced 2,388 cu yards. The asphalt section has made a large scale effort to spray Long Binh black. A shortage of penecprime required experimentation with other asphalt products for use as dust platatives and wearing surfaces. The quarry section was operating crushers at Long Binh and working with the 103d Engineer Company at Vung Tau. During this period laterite pit #5 was closed after yielding 167,378 cu yds of fill. The pit has a potential of 300,000 additional yards and can be reopened when needed. The field maintenance platoon completed about 200 job orders during this period. A complete revision of the ASL was accomplished by the battalion and the benefits should become evident during the next quarter.

c. B Company continues construction on one of the largest ammunition storage areas in the world. They have completed all 225 ammunition pads which provide 250,000 square yards of storage area. They are presently rehabilitating twenty-one pads that were destroyed by hostile action. The following construction has taken place at the AsP: a 39-mile road network is complete (drainage structures will be completed early next quarter), 12 of the protective berms are complete, 96% (3092 acres) of jungle clearing is completed. During the quarter a 157,000 square yard supply and storage area was completed for the 266th Quartermaster Battalion. The M&R construction for the 199th Light Infantry Brigade (a 4,500 man cantonment area) was started during the quarter. Company B will construct two 500-man mess halls, perimeter road, 30 laterite pads for troop billets and provide technical assistance and prefabrication support. The battalion carpenter shop, which is under control of B Company, consumed well over 1,000,000 board feet of lumber during the quarter. Prefabrication support was provided not only for the battalion construction projects but also for Long Binh units in support of their self help programs. Production was started during the quarter on 8" x 8" x 16" cement-sand-laterite bricks in support of headwall, checkdam, and retaining wall construction by all units of the 159th Engineer Group.

d. During the quarter, Company C has been primarily committed to the following projects: drainage at Honor Smith Compound at Bien Hoa, base development at IIFV, construction of a staging area, construction of Nurses' Quarters at the 93d Evacuation Hospital, PX Warehouse for Long Binh Post, Tan Son Nhut taxiway and storage area, access road for the 56th Air defense Artillery, water fill stand for the 48th TC, and the HEMCO cantonment area. The 800-foot storm drain to drain the swamps around Cong Ly Street and Honor Smith Compound is completed. The major



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completed projects at IIFV are: a motor pool and maintenance area for IIFV aviation which included two 20' x 100' maintenance buildings; General's quarters which are 20' x 30', two bedroom air conditioned quarters; and a VIP Helipad 150' x 150' with a minimum of 6' fill. Projects to be completed at IIFV are three culverts under the outer perimeter road and a 125,000 gallon water tank for three water fill stands. The Nurses' quarters, an "H" shaped wood frame building with approximately 6,000 sq ft of living space, an air conditioned beauty parlor and lounge were completed. The Tan Son Nhut taxiway and storage area were completed early in the quarter. The company is working on the 5,000 man HEMCO cantonment area which includes drainage, roads and pads; the 21,000 gallon water fill point at the 48th TC and the mile long ADA access road. This project includes widening approximately one mile of exterior roads and maintenance of roads within the 56th ADA.

e. During the quarter, Company D, has been committed to the following projects at Vung Tau: Open Storage Area, Ammunition Storage Depot, Surcharge Test, Support of Revolutionary Development, STRATCOM Communication Center, Minimum Essential Requirements for two engineer units, and the Port Facility. The Open Storage Area is in completion, the Ammunition Storage Depot is 30% complete with 5 completed and 6 more 70% complete. The surcharge test began last quarter, with 1,600 yards of blast rock hauled from the quarry at Support of Revolutionary Development involved assisting in the construction of the Vung Tau Center and is complete. The company has shipped 1,000 yds of rock to Binh Luc on 350 ton barges and 3,000 yds have been shipped to Dong Tam on 700 ton barges in support of engineer units in the Construction of STRATCOM Communication Center has commenced and is now 25% complete. The causeway for the DeLong Pier has been brought to final grade and is ready for the application of a DBST. The barrel tank farm is essentially complete except for missing parts which will be installed when received. The ten 10,000 barrel tanks are being used. The airfield drainage project, a 500-man mess hall and prefabricated buildings were also completed during the quarter. The production of crushed rock has increased from an average of 400 to an average of 1500 tons per day.

f. The 536th Engineer Detachment (Port Construction) has continued in its efforts of design, construction and rehabilitation of port and related facilities in the Vung Tau area. The barge loading facility since its completion in March, has been used in the shipment of rock to the Delta. The detachment has rehabilitated 5 barges and made minor repairs on numerous others. In a two week period five steel pile test structures were completed involving extensive welding as part of the Co May Test Pile project. Other work includes the Vung Tau POL Jetty.

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g. Due to operational commitments, most training conducted is "on the job" and limited to MOS training. However, two hours are scheduled each Sunday morning for formal training, in both mandatory and technical subjects. Technical classes given to officers and NCOs included surveying, drainage structures and job management.

5. Logistics: During the past quarter the S-4 section has received and issued on a monthly average the following quantities of construction material: Lumber (all sizes) - 920,000 BF, cement - 8,000 bags, miscellaneous construction materials (corrugated metal, nails, hardware, electrical supplies, construction steel) - 64 tons. The battalion is currently at an 86% fill of TO&E authorization for construction equipment and general purpose vehicles. Overall authorized TO&E fill is 93%.

6. Force Development: The organic work of the battalion is currently being augmented by approximately 800 permanent hire Vietnamese. This labor force is used on most battalion projects. The use of Vietnamese on such semi and non-skilled work as carpenter shop, cement shop, cement-sand-laterite block shop, culvert placement, headwall, construction and concrete work, frees engineer troop labor for more critical positions such as heavy equipment operator. An example of the value of the Vietnamese construction force is the Ammunition Supply Point (ASP). Security requirements prevent Vietnamese from entering the ASP, consequently a full construction platoon is fully committed to culvert and headwall construction, a project that might otherwise have been accomplished by two US soldiers and a Vietnamese crew. The production per Vietnamese is less than troop labor, but because of the difference in pay the overall cost is less using the Vietnamese labor.

7. Command Management: The battalion management is manifested through frequent project inspections, on-site coordination, and liaison with higher headquarters. Daily Battalion operations meetings have proven to be very useful as a tool for project coordination and as a forum for discussing technical problems that are encountered during construction.

8. Civic Affairs: The battalion maintains an interest in civic action projects, though the operational requirements prevents extensive work of this nature. Each company supports an orphanage or refugee village and monthly contributions are made. During the quarter a 20 ton crane was committed to assist Vietnamese laborers in the installation of a 5' diameter storm sewer and junction box across the main throughfare of Binh Dinh. An extensive drainage project on Cong Ly Street in Bien Hoa was completed as a civic action project. Weekly medical visits are made to the surrounding villages.



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Section 2, Part 1. Observations (Lessons Learned)

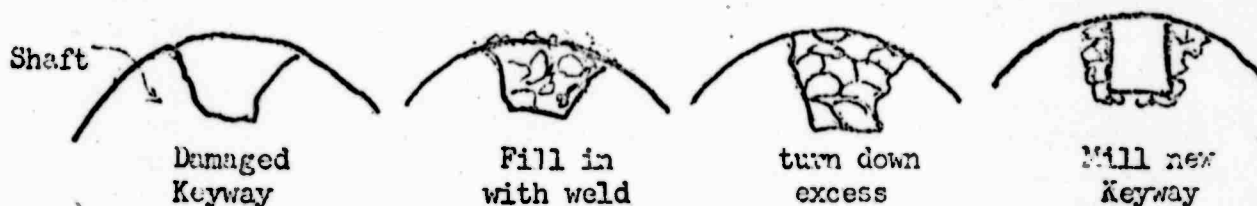
1. Personnel - None

2. Operations

a. Item: Expedient Repair of Axles and Wheels for Graders

Discussion: Through the heavy usage of graders and occasional improper operator's maintenance, the rear driving wheels of graders become loose, allowing play between the axle and the wheel. Each time the machine is started or stopped, this play causes the keyways on the axle and wheel to wear away. Since new axles and wheels on order, had not arrived, and graders are a very critical item of equipment, it was necessary to devise a method of repair.

Observation: First, we tried to cut keyways opposite the original, but the steel used in axles was too hard for our cutting tools. Next, we tried filling in the keyways with a weld, turning down the excess on a lathe, and cutting a new keyway in the same location. This proved to be a satisfactory, temporary repair until the new repair parts arrive.



It is difficult to accomplish this type of machine work on the lathes and millers available to us. Several PASE, MU, or Air Force units have adequate sized machines to accomplish this type of work.

b. Item: Constructing a Concrete Batch Plant using a 34-E Paver as the mixing element.

Discussion: The 46th EBC was faced with the problem of supplying concrete on a large scale to self-help units and 159th Group projects in the Long Binh area. This problem was further heightened by a shortage of 16-S mixers in the 46th EBC. Our unit solved the problem by obtaining a 34-E Dual Drum Paver and improvising a concrete batch plant with materials on hand. A 3000 gal rubber water tank mounted on a 20' tower provides water for plant operation and two 7 cu. yd. elevated bins are used to measure and dump the correct amount of sand and aggregate into the skip. The entire plant is located on the edge of a 6' headwall with the loading bucket boom extending out from the headwall. This arrangement permits trucks to drive under the paver boom and be

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loaded. During the initial operation of the plant several problems developed which greatly decreased its operating efficiency. (a) Maintenance: Repair parts for the 34-E Paver are very difficult to acquire in this theater of operation. Any breakdown due to parts failure results in long periods of downtime for the plant. Along with parts shortage, cleaning of the mixing drums became a problem. If, during a period of operation, the paver was allowed to set idle for even a short period of time, rapid concrete build up occurs in the drums. (b) Loading the Measuring Bins: The original plan of operation called for a 20 ton crane with a clam shell to load the aggregate and sand storage bins. Unfortunately, the battalion was often faced with a critical shortage of cranes which effectively deadlined the batch plant during these periods.

Observations: (a) Maintenance: The repair parts problem was solved by stocking as many of the parts as were available. Hydraulic lines and fittings are kept on hand for immediate repairs of the hydraulic systems. The main drive bearing was fabricated by Third Echelon Maintenance when a repair part was not available. The build up of concrete deposits in the mixer requires that one day a week be set aside for general maintenance. During this time an air hammer is used to remove concrete that has accumulated on the mixing bins and loading bucket. A 175 gpm water pump and a manifold system was installed so that water could be pumped from the water trucks up to the tower and from the tower to the measuring tank. Also the pump provides high pressure water required for cleaning the mixer after operations. Another approach to the problem was to exercise control over user pickup to reduce the time that the plant sat idle. (b) Loading the measuring bins: Because of the shortage of cranes in the battalion, an alternate method of filling the measuring bins had to be found. A 50' conveyor belt from the platoon's quarry section was found to be a satisfactory solution. Power to operate the conveyor was supplied by a 10KW generator and loading of the belt was done with a front loader. Initial operation showed that it was very easy to overload the belt and that changing the position of the conveyor to enable it to empty into either the sand or gravel bin was very awkward and time consuming. To correct these faults a loading bin with a slide gate was installed to allow a precise amount of sand or gravel to be metered onto the belt, thus guarding against overloading the conveyor. At the top of the conveyor a swing gate was attached to enable the flow of gravel to be directed to the right bin and sand to be directed into the left bin (See Incl 2). Finally to improve the operation of the conveyor belt the 10KW generator was eliminated by connecting into a nearby 100KW generator. Experience has shown that a Batch Plant constructed in the manner indicated in this discussion has a productive rate approaching 30 cu yds per hour. The conveyor belt loading system can transfer 2.4 cu yds of sand and gravel per minute to the measuring bins and therefore does not restrict the output of the plant.

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c. Item: Measuring Water for 34-E Paver

Discussion: During initial operation, the paver's measuring system was discovered to be faulty and measuring inconsistent amounts of water into each batch of concrete.

Observations: An expedient measuring tank was designed and constructed using a 55 gallon drum, welding rod, a beer can, two 3" quick shut-off valves, and a hard rubber fire hose. The system (See Incl 3) which sets on top of the paver, accurately measures any quantity of water up to 50 gallons. The operation shuts off the outlet valve (A), opens the inlet valve (B), which allows water to come from the storage tank. The beer can acts as a float and is guided by four welding rods which run from the top to the bottom of the drum. Soldered thru the air tight beer can is a length of welding rod which serves the purpose of a pointer. Another  $\frac{1}{2}$ " square rod mounted vertically on top of the drum is graduated in one gallon increments. When the pointer reaches the desired amount the inlet valve is shut off. The outlet valve is opened allowing the correct quantity of water to flow into the mixing drum.

d. Item: Spray Bar Bath Tank: for 800 gallon truck mounted Bituminous Distributor.

Discussion: One of the most time consuming factors in the operation of the truck mounted bituminous distributor is keeping the spray bar clean. After use, the spray bar congeals, plugging the nozzles. The procedure used previously was to heat the material in the tank and then pump the asphalt thru the system, which melted the material and freed the nozzles. This procedure was very time consuming as in some instances it took 45 minutes to an hour for all the material in the bar to melt.

Observation: We are now working on an elongated tank fabricated from 55 gallon drums and sheet metal which will be filled with diesel fuel or any comparable solvent. After operations, the distributor can be backed up to the tank and the spray bar will be lowered into the liquid. Storage of the spray bar overnight in this manner will keep bitumens from congealing and plugging the nozzle and other fittings, thus preventing time consuming cleaning jobs which were regularly required with the old techniques. We also use blocks of wood to serve as guides when backing up to the tank. The blocks will be placed in such a manner as to stop the rear wheels in the exact location needed to place the spray bar directly over the bath. The spray bar is then lowered into the solvent and kept there until operated again. (See Incl 4)



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e. Item: Use of Dust Suppressors as a Wearing Surface:

Discussion: Often dust suppressors are used as dust control agents on roads and storage pads which require a type that possesses a good wearing quality.

Observations: The asphalt section of Co A, 46th EBC has worked with several types of asphalt cutbacks including RC-3, MC-0,2,3, and Penepriime. When available, penepriime has been used for all dust control applications. However, shortages of this material have required that other type of cutbacks be used as substitutes. When applied to areas where the material must also act as a wearing surface, results have ranged from very good to poor. Some treated roads have withstood a heavy traffic of 290-M tractors and 5 ton dump trucks for two months and still retained their wearing surface while others have deteriorated with the first traffic on them. Part of the reasons for these poor results can be found in the type of the cutback used. Under normal application penepriime tends to penetrate the soil instead of curing on top of the surface. This gives the soil good binding properties and effectively suppresses the dust. However, when subjected to traffic the surface breaks up and powders, creating a dust problem once again. Medium cure cutbacks must be diluted with diesel fuel for proper application. The resultant mixture generally has poorer wearing qualities than penepriime. When a satisfactory application and cure can be achieved, RC-3 provides a long lasting wearing surface; however, application is generally very difficult because the material is very susceptible to blotting. Also, curing has been found to be very slow, a week or longer, and usually traffic is allowed on the road before it is properly cured. When this happens, the asphalt surface is torn up by vehicle tires, leaving a road covered with bumps and pot holes. Another reason for poor results can be found in preparation of the road surface. A dust covered surface will not properly accept a dust suppressor. Severe blotting occurs, especially on low viscosity cutbacks and the dust provides no support for a wearing surface.

f. Item: Jungle Clearing in Gullies and Swampy Areas

Discussion: In clearing the jungle areas inside and on the perimeter of the Long Binh Ammunition Supply Depot, gullies and swamp areas not accessible to bulldozers and Rome Plows were encountered.

Observations: The most efficient and effective method of clearing these areas was the use of a large anchor chain. The ends of a 500 foot, 50 pound per link chain were attached to dozers on opposite sides of the gully and dragged through the area uprooting or breaking down vegetation. This method has proven to be very effective and has

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saved countless hours of hand labor. However, the method is restricted to use only in narrow draws with banks firm enough to provide excellent traction to the dozers.

g. Item: Cement-Sand-Laterite Bricks

Discussion: These bricks are useful construction units for headwalls and retaining walls and provide satisfactory strength at low cost. Construction with the bricks once they are on site is speedy but the time required to produce large numbers of bricks and transport them to job sites makes them suitable for use only where an attractive structure is required.

Observations: An effective masonry construction unit can be made with a cement, sand and laterite mixture formed in a wooden mold. The best brick found through our tests was a 8" x 8" x 16" brick made with a 2:3:3:2.1 (Cement:Sand:Laterite:Water by Volume) mix formed with two holes like a cinder block.

h. Item: Cement -- Indigenous Soil Filled Sandbags

Discussion: Headwalls, retaining walls, checkdams and other structures constructed with laterite or indigenous soil filled sandbags are at best expedient. Durability of these structures can be materially improved with the addition of cement to the material in the sandbags.

Observation: The best proportion for cement and soil mixtures for sandbags is one bag of cement to 12 to 20 sandbags of soil. The sandbag should be filled two-thirds full with the mixture. This allows forming of the individual sandbags to give a tight, interlocking pattern which increases the strength of the structure. The result is a more durable structure than attained with soil filled sandbags with only slightly greater man hour expenditure.

i. Item: Culvert Emplacement in Swampy Areas.

Discussion: Culvert placement in soft, swampy areas can be expedited when time does not allow removal of soft material prior to placement.

Observations: A mat of coarse brush or bamboo, if available, covered by a two-foot compacted layer of large noduled laterite makes an excellent expedient base. A one-foot saddle is then cut in the laterite base and the culvert is placed, backfilled and tamped.

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j. Item: Maintenance Support

Discussion: Considerable difficulty has been experienced in obtaining adequate maintenance support for marine equipment. Spare parts are often unavailable, and there are few personnel qualified to maintain such equipment.

Observations: Maintenance organizations in support of units with marine capabilities should be equipped to service marine equipment.

3. Training and Organization

Item: Training Aids for Repair Parts Procedure

Discussion: With the great turnover of personnel in Vietnam, it becomes necessary to conduct elementary training programs to inform new personnel on repair parts supply procedure.

Observations: Since repair parts requisitioning requires slightly more control data in order to carry out this function efficiently, the problem of training also becomes very difficult. We feel that training aids should be provided which outlined the procedures in a step by step format, explaining precisely the use of each form and the exact entries which should be made. Realizing that all of this information is contained in appropriate manuals, we still feel that other, more simplified directions such as training films should be made available which could be used for instructional purposes.

4. Intelligence--None

5. Logistics:

a. Item: Construction Material

Discussion: Most construction materials are readily available at the present time. Availability of electrical supplies, especially entrance hardware and distribution hardware and distribution panels, is critical. 51A

Observation: The consolidated electrical requirements for a construction Group be submitted to COMUS for procurement and special shipment by air, to RVN.

b. Item: General Purpose Vehicles

Discussion: General purpose vehicles, such as  $\frac{1}{2}$  ton trucks,  $2\frac{1}{2}$  ton trucks,  $2\frac{1}{2}$  ton fuel tankers and 5 ton tractors, are in critical



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supply. Short supply of these items through normal channels is seriously hampering construction support.

*Jan*  
Observation: Experience has indicated that vehicles are not issued as requisitioned, i.e., by document number and priority of requisitioner. Solution to this problem area would be a continuous demand by support activities to CUIUS, to insure an uninterrupted flow. All requests for vehicles should be held at Depot level pending receipt, and issues should be made by Depot by priority and document number of requisitioners.

Section 2. Part II, Recommendations

1. Personnel: None
2. Operations: None
3. Training and Organization: None
4. Intelligence: None
5. Logistics:

a. Fork lifts should be procured and issued to the S-4 to enable large quantities of construction materials and supplies to be handled thereby relieving the 20 ton cranes for construction use. Fork lifts would be adequate for much of the work required in handling supplies by hand and with the use of a 20 ton crane as is now the practice.

b. That FM radios be procured for the construction companies. Comparisons with units having FM radios have shown that when AM radios presently used will not function, the FM net had clear reception. As a security measure and to increase control and efficiency, the FM radio sets would be indispensable.

4 Incl

1. Organization Chart
2. Sketch of Swing Gate  
Batch Plant
3. Sketch of Water Measuring Valve
4. Sketch of Spray Bar Soaking Tank

*W.V. McGuinness, Jr.*  
W.V. McGUINNESS, JR.  
LTC CE  
Commanding

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TRB-3 (14 May 67)

1st Ind

GFT-Memo/104/12543

SUBJECT: Operational Report - Lessons Learned (GS 03.04-65) For  
Quarterly Period Ending 30 April 1967

DA, HQ, 159th Engineer Group (Det), 19 May 1967

TO: ~~Commanding General, 159th Engineer Group (Det), 19 May 1967~~,  
INFO: WTS-712, 10 93491  
Assistant Chief of Staff for Special Operations, Department of the Army  
(ASST 2-12), Washington, D.C. 20310

1. The subject report, submitted by the 159th Engineer Battalion (Det) has been reviewed by this headquarters and is considered comprehensive and of value for documentation and review of the activities and experiences.

2. This headquarters concurs with the submitted report, with the following comments:

a. Section 2, Part II, paragraph 23. INFO: Maintenance Support. The 159th Engineer Battalion Maintenance is Engineer was serviced with equipment of this headquarters with generally satisfactory support. Improvements in both quality and timeliness of support could be made.

b. Section 2, Part II, paragraph 24. This headquarters concurs with the requirement for each construction battalion to be authorized and equipped to transport heavy construction equipment. Heavy equipment (Class IV) depots are not packaged for extensive handling by truck or crawler-mounted cranes. Three construction battalions have submitted TOW's which are pending approval by Department of the Army.

FOR THE COMMANDER:

*Edward J. Carson Jr.*  
EDWARD J. CARSON JR.  
GFT, 1.6  
Adjutant

Copy furnished:  
CS, 16th TDC

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AVCC-P&O (15 May 67) 2d Ind CPT Hubbard/ccb/EH 404  
SUBJECT: Operational Report-Lessons Learned (RCS CEFOR-65) for Quarterly  
Period Ending 30 April 1967

HEADQUARTERS, UNITED STATES ARMY ENGINEER COMMAND  
VIETNAM (PROV), APO 96491

TO: Commanding General, United States Army, Vietnam, ATTN: AVHGC-DH,  
APO 96307

1. The subject report, submitted by the 46th Engineer Battalion  
(Const), has been reviewed by this headquarters and is considered adequate.

2. The recommendations and comments made by the submitting and In-  
dorsing commanders have been reviewed and this headquarters concurs, sub-  
ject to the following added comments:

a. Section 2, Part I, paragraph 2b, page 7, ITEM: Maintenance of  
34E Paver using air hammer to remove concrete from mixing bins. The proper  
method is to run water and gravel through the drum ten minutes of every  
hour, inspect and be sure it is clean.

b. Section 2, Part I, paragraph 2j, page 11, Maintenance. All  
units have been notified by letter to inform this Command of any problem  
relative to marine equipment.

c. Section 2, Part I, paragraph 3, page 11, Training. This head-  
quarters will investigate the availability of a training film on this sub-  
ject.


d. Section 2, Part I, paragraph 5a, page 11, Construction Material.  
All construction materials needed for high priority projects are processed  
under a special handling program to obtain air shipment from CONUS if eco-  
nomically practicable. Where possible this requirement for the same item  
is consolidated at the Engineer Command level.

(1) Upgrading of building standards creates critical shortages  
in electrical and plumbing supplies. Also, a number of relatively sophisti-  
cated facilities, such as communication centers, which are not in TM 5-302  
created an additional demand on these items.

(2) Lack of depot personnel qualified to make appropriate sub-  
stitutes for items requested is another problem.

e. Section 2, Part I, paragraph 5b, page 11, General Purpose  
Vehicle. Action has been taken by this Command to obtain releases for the  
general purpose vehicles mentioned.

FOR THE COMMANDER:

  
RICHARD J. DUCOTE  
Colonel, CE  
Chief of Staff

AVHGC-DST (15 May 67)

3d Ind

SUBJECT: Operational Report-Lessons Learned for the Period Ending  
30 April 1967 (RCS CSFOR-65)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96307

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-OT,  
APO 96553

1. This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 30 April 1967 from Headquarters, 46th Engineer Battalion (Construction) as indorsed.

2. Pertinent comments follow:

a. Reference item concerning constructing a concrete batch plant using a 3/4" paver as the mixing element, pages 6 and 7, and paragraph 2a, 2d Indorsement: The expedient method of loading a concrete batch plant is a workman like approach to a common construction problem. It is a good solution provided the correct lifting and loading equipment is not available and cranes or unused conveyors and supporting equipment are available. Paragraph 2a, 2d Indorsement adequately explains cleaning procedures. Repair parts stockage requires that PLI's be established in accordance with AR 735-35.

b. Reference item concerning maintenance support, page 11: This headquarters has tasked 1st Logistical Command to provide adequate support for engineer floating equipment. Current mission support plans provide for DSU assistance in this area.

c. Reference item concerning training aids for repair parts procedure, page 11: Concur in the comments of the 2d Indorsement. Request for photographic assistance are submitted in accordance with USARV Regulation 108-1 (Audio Visual Services, Still and Motion Picture Photography).

d. Reference item concerning fork lifts, paragraph 5a, page 12: Concur. USARV message (U) AVHGC-OT 19073, DTG 251132Z March 1967, subject: Changes in Equipment Authorization established procedures for emergency loan of equipment for units pending MCE approval.

FOR THE COMMANDER:

4 Incl  
nc

E. J. KENNEDY  
TTC AGC  
Adjutant General

GPOP-DT(15 May 67)

4th Ind

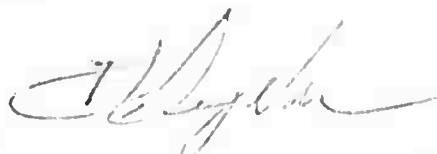
SUBJECT: Operational Report-Lessons Learned for the Period Ending  
30 April 1967 (RCS CSFOR-65), HQ 46th Engr Bn (Const)

HQ, US ARMY, PACIFIC, APO San Francisco 96558 8 AUG 1967

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters concurs in the basic report as indicated.

FOR THE COMMANDER IN CHIEF:



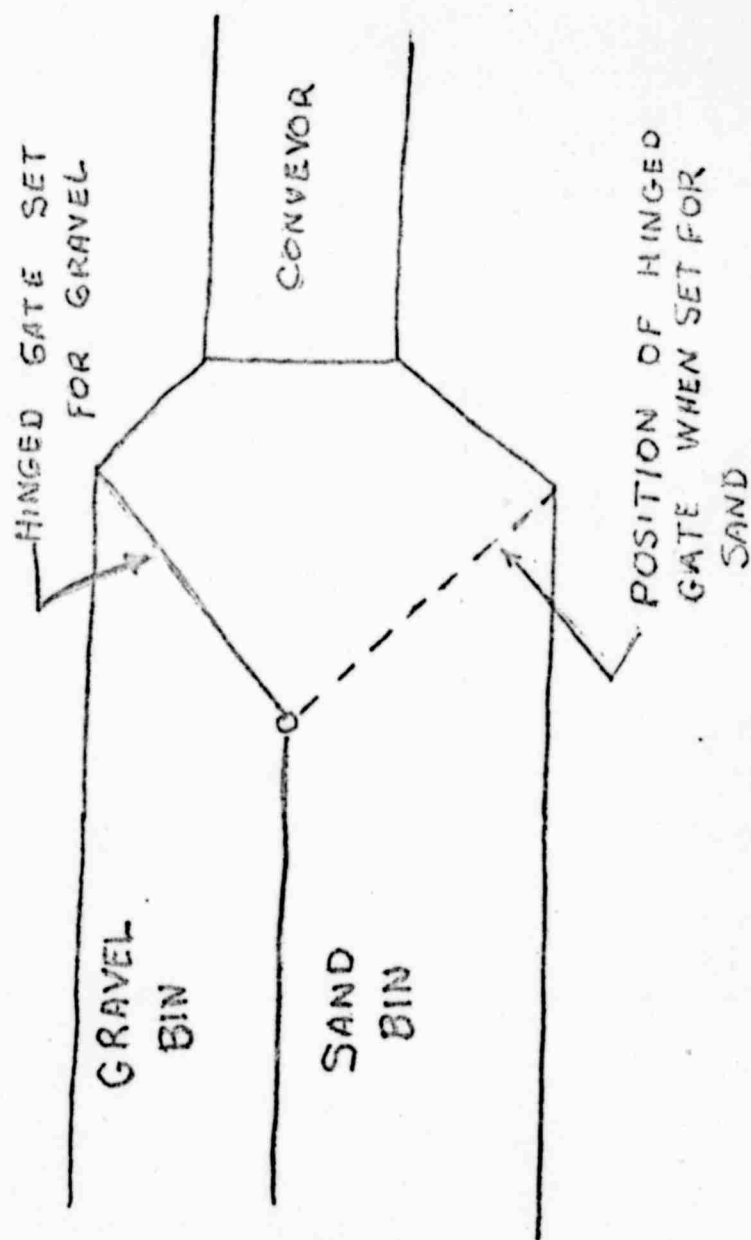
H. SEYLER  
CPT, AGC  
Asst AG

4 Incl  
nc





# SWING GATE BATCH PLANT



0-22

WELDING  
ROD POINTED

1" SQ BRACED ROD  
1/2 MARKED IN 1 GAL.  
INCREMENTS

B  
INLET  
FROM  
PUMP

55 GAL. DRUM

AIR TIGHT  
TIN CAN

4 WELDING ROD  
GUIDES

A  
OUTLET  
TO MIXING  
DRUM

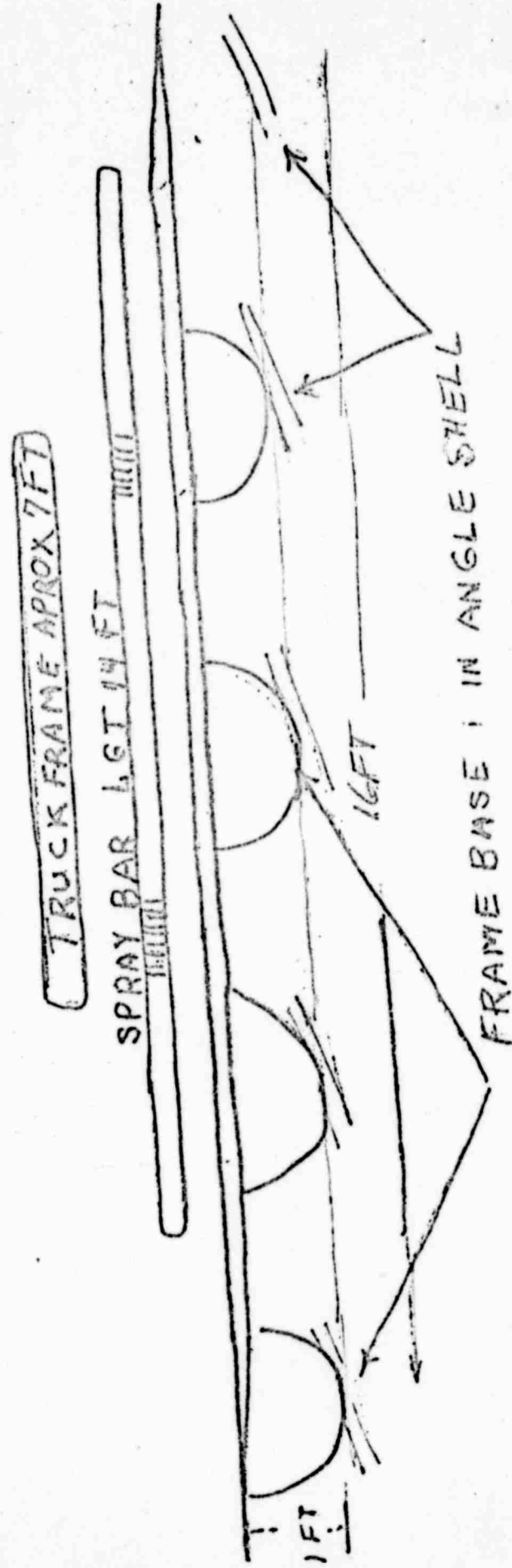
Incl 3



SPRAY BAR SOAKING TANK  
FOR DISTRIBUTOR, BITUMINOUS  
ETNYRE MODLE MX-RE 800 GALS

TANK MADE FROM SPLIT OIL DRUMS

HGT. 1 FT. LGT 16 FT.



Draw 4.